



## CONGRESSIONAL BUDGET OFFICE COST ESTIMATE

June 24, 1999

### **Nuclear Waste Policy Amendments Act of 1999**

*As ordered reported by the Senate Committee on Energy and Natural Resources  
on June 16, 1999*

#### **SUMMARY**

This bill would amend the Nuclear Waste Policy Act by directing the Department of Energy (DOE) to make a final decision by December 31, 2001, whether to recommend to the President that the Yucca Mountain site in Nevada be developed as a permanent waste repository. The bill would, under certain conditions, provide for storage of waste at Yucca Mountain before a permanent repository is completed, and would allow DOE to enter into agreements with nuclear utilities to assume responsibility for some waste at a utility's current storage site. In addition, the bill would authorize training programs and grants to states to prepare for transshipments of nuclear waste, and it would authorize the establishment of an Office of Spent Fuel Research in DOE.

Assuming appropriation of the necessary amounts, CBO estimates that implementing this legislation would cost about \$1.9 billion over the 2000-2004 period to continue DOE's efforts to characterize the Yucca Mountain site and submit a license application to the Nuclear Regulatory Commission (NRC). Enacting this bill would not affect direct spending or receipts; therefore, pay-as-you-go procedures would not apply.

The state of Nevada and localities in the state would incur some additional costs as a result of this bill, but CBO is unsure whether the provisions causing those costs would be considered intergovernmental mandates, as defined in the Unfunded Mandates Reform Act (UMRA). We estimate that the costs incurred by state and local governments would total significantly less than the threshold established in the law (\$50 million in 1996, adjusted annually for inflation). This bill contains no new private-sector mandates as defined in UMRA.

## ESTIMATED COST TO THE FEDERAL GOVERNMENT

The estimated budgetary impact of this bill is shown in the following table. The costs of this legislation fall within budget functions 270 and 050 (energy and defense).

	By Fiscal Year, in Millions of Dollars					
	1999	2000	2001	2002	2003	2004
<b>SPENDING SUBJECT TO APPROPRIATION</b>						
Spending on Nuclear Waste Disposal						
Under Current Law						
Budget Authority <sup>a</sup>	358	0	0	0	0	0
Estimated Outlays	324	55	0	0	0	0
Proposed Changes						
Estimated Authorization Level	0	390	365	340	430	455
Estimated Outlays	0	312	370	345	412	450
Spending on Nuclear Waste Disposal						
Under the Bill						
Estimated Authorization Level <sup>a</sup>	358	390	365	340	430	455
Estimated Outlays	324	367	370	345	412	450

a. The 1999 level is the amount appropriated for that year.

## BASIS OF ESTIMATE

This estimate is based on DOE's current plan for the nuclear waste program, issued in July 1998. For purposes of this estimate, CBO assumes the bill will be enacted before the end of fiscal year 1999. We assume DOE will apply to the NRC for authorization to build a permanent repository at the Yucca Mountain site by March 31, 2002, so that the NRC may decide whether to authorize construction by December 31, 2006, as directed by section 101 of this bill.

## Yucca Mountain

This legislation would authorize DOE to proceed with its Civilian Radioactive Waste Management Program plan of July 1998. This plan calls for continuing to evaluate the Yucca Mountain site as a permanent repository for nuclear waste and applying for a

construction license from the NRC in 2002, if the site appears to be viable for this use. Based on information from DOE, CBO estimates that this effort would require appropriations averaging nearly \$400 million annually and totaling about \$2 billion over the 2000-2004 period. Substantial additional costs would be incurred after 2004 to construct and operate a nuclear waste repository at Yucca Mountain if the NRC issues a license to the department. In its December 1998 report, *Analysis of the Total System Life Cycle Cost of the Civilian Radioactive Waste Management Program*, DOE estimates the future cost to complete the program is "approximately \$26.6 billion, in constant 1998 dollars from 1999 through closure and decommissioning, assumed to be in 2116."

### **Backup Storage**

Section 102 would direct DOE to take title to any amounts of nuclear waste that the NRC determines cannot be stored at a utility's site, provided that such a utility would agree to waive any claim for damages against the United States because of DOE's failure to begin disposing of waste in 1998. DOE would be directed to transport this waste to the Yucca Mountain site following NRC authorization to construct a permanent repository there, or to transport it to a privately run facility for nuclear waste storage. DOE could incur additional discretionary costs for building waste storage capacity at the Yucca Mountain site before the facility opened or transporting waste to a private storage facility (if any private facilities are constructed), if any utilities require backup storage.

This cost estimate does not include any potential costs for backup storage, however, because it is not clear that there will be any demand for backup storage. Thus, there may not be a need for additional DOE spending over 2003-2006 period. In addition, it is uncertain whether or not the NRC will authorize construction of a repository at the Yucca Mountain site in 2006. This authorization would be required before backup storage could be provided since it appears unlikely that any privately owned waste storage facilities will be developed over the next few years. If DOE were required to prepare the Yucca Mountain site for backup storage, additional costs could be substantial. Based on information from DOE, we estimated such costs could approach \$1 billion over the 2003-2006 period, subject to the availability of appropriated funds.

### **Settlement Agreements**

Section 105 would allow DOE to enter into settlement agreements with any utilities that were scheduled to have nuclear waste removed from their sites by DOE starting on January 31, 1998. If a utility waives any claim for damages against the United States because

of DOE's failure to begin disposing of waste in 1998, then the department may take title to the utility's waste, provide waste storage casks to the utility, operate an existing dry cask storage facility for the utility, or compensate the utility for the cost of providing storage for this waste at the utility's site. The bill would restrict DOE from making expenditures from the Nuclear Waste Fund to pay for any settlement costs that would not otherwise be incurred under the existing contracts for nuclear waste disposal between DOE and nuclear utilities.

This estimate does not include any additional discretionary costs for settlement agreements that may be entered into between DOE and nuclear utilities as a result of enacting this bill. Under current law, and consistent with the standard contract for nuclear waste disposal between the department and the nuclear utilities, these parties may agree to reduce the annual nuclear waste fee (referred to as "fee credits") paid to the government by the utilities in the event of an avoidable delay in the schedule for disposing of waste. CBO has assumed that DOE and those utilities that have experienced an avoidable delay in the disposal of their waste will choose to invoke this provision of their contracts and that the mandatory nuclear waste fee will be reduced by a total of about \$400 million over the 2000-2009 period to compensate these utilities for the incremental cost of continued waste storage at their sites of 10,000 metric tons of waste.

If nuclear utilities choose to enter into settlement agreements with DOE following enactment of this bill, it is possible that DOE would agree to provide compensation greater than or less than the amount CBO has assumed under current law. It is also possible that DOE would choose to use appropriated funds to provide compensation instead of fee credits as we have assumed. In this case, the discretionary costs of this legislation would be higher than we have estimated here, and nuclear waste fee collections would be greater than the amount we have estimated. CBO cannot predict whether or not utilities would choose to enter into settlement agreements under the terms defined in this bill, nor whether DOE would use fee credits or appropriated funds to implement any settlement agreements.

**PAY-AS-YOU-GO CONSIDERATIONS:** None.

## **ESTIMATED IMPACT ON STATE, LOCAL, AND TRIBAL GOVERNMENTS**

### **Mandates**

CBO is unsure whether the bill contains intergovernmental mandates, as defined in UMRA, but we estimated that costs incurred by state, local, and tribal governments as a result of the

bill would total significantly less than the threshold established in the law (\$50 million in 1996, adjusted annually for inflation).

Although this bill would, by itself, establish no new enforceable duties on state, local, or tribal governments, shipments of nuclear waste for surface storage at the Yucca Mountain site, as authorized by the bill, probably would increase the cost to the state of Nevada of complying with existing federal requirements. CBO cannot determine whether these costs would be considered the direct costs of a mandate as defined by UMRA.

Additional spending by the state would support a number of activities, including emergency communications, emergency response planning and training, inspections, and escort of waste shipments. These costs are similar to those that the state would eventually incur under current law as a result of the permanent repository planned for Yucca Mountain. This bill would, however, authorize DOE to receive and store waste at Yucca Mountain once the NRC has authorized construction of a repository at that site and would set a deadline of December 31, 2006, for NRC to make that decision. This date is about three years earlier than DOE expects to begin receiving material at the site under current law.

### **Other Impacts**

This bill would authorize planning grants of at least \$150,000 for each state and Indian tribe through whose jurisdiction radioactive waste would be transported and annual implementation grants for those states and tribes after they have completed their plans. Further, the bill would prohibit shipments through the jurisdiction of any state or tribe that has not received technical assistance and funds for at least three years.

### **ESTIMATED IMPACT ON THE PRIVATE SECTOR**

This bill contains no new private-sector mandates as defined in UMRA.

### **PREVIOUS CBO ESTIMATE**

On May 4, 1999, CBO prepared a cost estimate for H.R. 45, the Nuclear Waste Policy Act of 1999, as ordered reported by the House Committee on Commerce on April 21, 1999. The provisions of the bill ordered reported by the Senate Committee on Energy and Natural Resources and H.R. 45 are different and the two cost estimates reflect those differences. In particular, H.R. 45 would authorize construction of an interim repository at the Yucca

Mountain site, while the Senate bill does not contain any similar provision. In contrast to H.R. 45, the Senate bill contains provisions relating to settlement agreements between DOE and nuclear utilities and to backup storage.

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